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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/521,484	01/20/2005	Gareth Jones	7519-2	2083
30565	7590	05/30/2007	EXAMINER	
WOODARD, EMHARDT, MORIARTY, MCNETT & HENRY LLP			NGUYEN, SANG H	
111 MONUMENT CIRCLE, SUITE 3700			ART UNIT	PAPER NUMBER
INDIANAPOLIS, IN 46204-5137			2886	
MAIL DATE		DELIVERY MODE		
05/30/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/521,484	JONES, GARETH	
Examiner	Art Unit		
Sang Nguyen	2886		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 20 January 2005.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 1,13 and 16-19 is/are rejected.

7)  Claim(s) 2-12,14 and 15 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 09/06/05.

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date.       .  
5)  Notice of Informal Patent Application  
6)  Other:       .

## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Information Disclosure Statement*

The information disclosure statement (IDS) submitted on 09/06/2005 has been entered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Specification*

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

#### *Arrangement of the Specification*

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(I) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825: A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

**With respect to the present invention, applicant should provide all the "headings" as listed above into the specification.**

***Claim Objections***

Claims 1 and 14 are objected to because of the following informalities:

**Claim 1 in line 11;** the language of the present invention "vice versa" is indefinite since the resulting claim does not clearly set forth metes and bounds of the patent protection desired. Appropriate correction is required.

**Claim 14 in line 7;** the language of the present invention "vice versa" is indefinite since the resulting claim does not clearly set forth metes and bounds of the patent protection desired. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

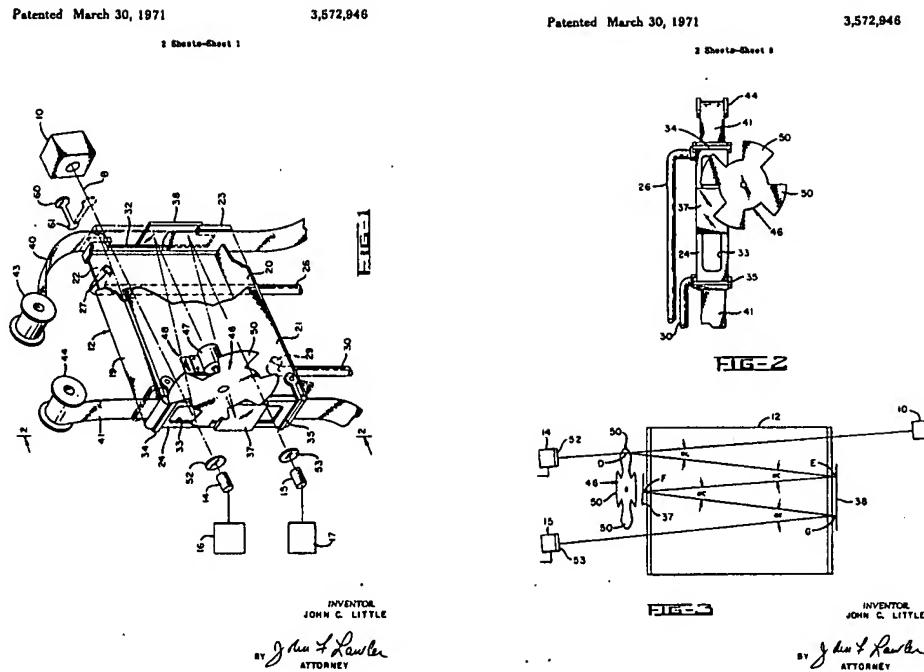
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Little (U.S. Patent No. 3,572,946).**

**Regarding claim 1;** Little discloses an optical apparatus comprising: a sample holding means(12 of figure 1), a detector (14, 15 of figure 1) and first and second light

selection means (e.g., blades [50 of figure 1] on a chopper wheel [46 of figure 1], aperture [33 of figure 1], and bracket [48 of figure 1]) , wherein the sample holding means (12 of figure 1) being arranged to receive incident light (B of figure 1) from a light source (10 of figure 1), the first light selection means (33, 46,50 of figure 1, e.g., are aligned with each other) being arranged to selectively allow light (B of figure 1) that passes from the sample holding means (12 of figure 1) in a direction substantially parallel to the direction of the incident light to pass to the detector(14 of figure 1), and the second light selection means (46, 50, 33, [mirrors of 37, 38 of figures 1 and 3]) being arranged to selectively allow light that is emitted from the sample holding means (12 of figures 1 and 3) in a direction substantially transverse to the direction of the incident light (e.g., transverse from point D on blade [50 of figure 1] of wheel [46 of figure 1], reflecting to point E on mirror [38 of figure 3], then reflecting back to mirror [37 of figure 3], then reflecting to the mirror 38 of figure 3) at point G of figure 3]) to pass to the detector (15 of figures 1 and 3), wherein the first and second light selection means are operable simultaneously by an adjusting bracket (48 of figures 1 and 3) such that when the first light selection means (col.2 lines 70-75, e.g., when the spaces between the wheel blades [50 of figure 1] are aligned with aperture [33 of figure 1]) is adjusted to pass light to the detector (14 of figure 1), the second light selection means (col.3 lines 3-12) is adjusted to prevent passage of any light to the detector (14 of figure 1) . See figures 1-3.



### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Little (U.S. Patent No. 3,572,946) in view of Rabl (U.S. Patent No. 4,074,939).**

**Regarding claim 13;** Little discloses all of features of claimed invention except for the apparatus is provided with one or more wavelength dependent optical filters which may be used to selectively transmit to the detector light at the wavelength of the incident light or light at a fluorescence wavelength. However, Rabl teaches that it is known in the art to provide an optical detection apparatus having with one or more wavelength dependent optical filters ( $F_A$ ,  $F_B$  of figure 1) which may be used to selectively transmit to the detector light ( $D_A$ ,  $D_B$  of figure 1) at the wavelength of the incident light or light at a fluorescence wavelength (col.3 lines 44-57). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate apparatus of Little with one or more wavelength dependent optical filters which may be used to selectively transmit to the detector light at the wavelength of the incident light or light at a fluorescence wavelength as taught by Rabl for the purpose of measuring high accurately absorption, fluorescence, or scattered light from sample.

**Regarding claim 16;** Little discloses all of features of claimed invention except for the detector is a photo-multiplier tube. However, Rabl teaches that it is known in the art to provide the detector is a photo-multiplier tube (col.3 lines 41-43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate apparatus of Little with the detector is a photo-multiplier tube as taught by Rabl for the purpose of measuring high accurately absorption, fluorescence, or scattered light from sample.

**Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Little (U.S. Patent No. 3,572,946) in view of Modlin et al (U.S. Patent No. 6,097,025).**

**Regarding claim 17;** Little discloses all of features of claimed invention except for the sample holding means comprises a housing dimensioned to receive a cuvette. However, Modlin et al teaches that it is known in the art to provide the sample holding means (124 of figure 4) comprises a housing dimensioned to receive a cuvette (126 of figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate apparatus of Little with the sample holding means comprises a housing dimensioned to receive a cuvette as taught by Modlin et al for the purpose of measuring the sample more accurate with high speed.

**Regarding claim 18;** Little discloses areas of upper and lower surfaces (24, 32 of figure 1) of the housing cell (12 of figure 1) are opaque such that light traveling in a direction which is not substantially parallel to the direction of the incident light (B of figure 1) is prevented from passing via the first light selection means to the detector(14 of figure 1).

**Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Little (U.S. Patent No. 3,572,946) in view of Taguchi et al (U.S. Patent No. 6,396,584).**

**Regarding claim 19;** Little discloses all of features of claimed invention except for the second light selection means comprises one or more light guides. Taguchi et al teaches that it is known in the art to provide the second light selection means comprises

one or more light guides (e.g., one or more fiber [123 of figure 4]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate apparatus of Little with the second light selection means comprises one or more light guides as taught by Taguchi et al for the purpose of transmitting accurately light to detector.

***Allowable Subject Matter***

**Claims 2-12 and 14-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

The prior art of record, taken alone or in combination, fails discloses or render obvious an optical apparatus comprising all the specific elements with the specific combination including of the first light selection means comprises a shutter located between the sample holding means and the detector, the shutter being moveable between a first position in which the light that is substantially parallel to the incident light passes through the shutter to the detector, and a second position in which the light that is substantially parallel to the incident light is prevented from passing to the detector in set forth of claim 2.

The prior art of record, taken alone or in combination, fails discloses or render obvious an optical apparatus comprising all the specific elements with the specific combination including of the shutter and the light guide shutters are provided with operation means which allow them to be operated simultaneously, such that as the shutter is moved from a first position to a second position, thereby preventing light

substantially parallel to the incident light from passing to the detector, the light guide shutters move from their second position to their first position, thereby allowing light substantially transverse to the incident light to pass to the detector, ..., and wherein the one or more wavelength dependent optical filters are mounted in a holder which may be connected to the operation means, such that movement of the shutter and the light guide shutters also moves the holder, thereby positioning an appropriate wavelength dependent optical filter over the detector in set forth of claim 14.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Owen et al (6486474) discloses infrared spectrometer for the measurement of isotopic ratios; Ozaki et al (5754289) discloses Raman scattered light measuring apparatus; Brooker (5491343) discloses high speed multiple wavelength illumination source; Fay et al (5149972) discloses two excitation wavelength video imaging microscope; Schnell et al (4620284) discloses qualitative and quantitative analysis using Raman scattering; Ward (4563585) discloses monitoring gas and vapor concentrations; Kallet et al (4153369) discloses convertible dual beam differential spectrofluorometer; De Maeyer et al (4076420) discloses apparatus for investigating fast chemical reactions by optical detection; or Iwahashi et al (3927944) discloses spectrophotometer.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifu Chowdhury can be reached on (571) 272-2800 ext. 86. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 22, 2007



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